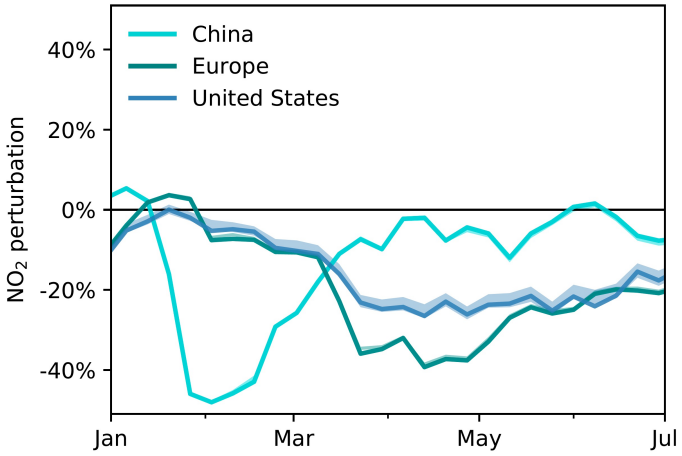
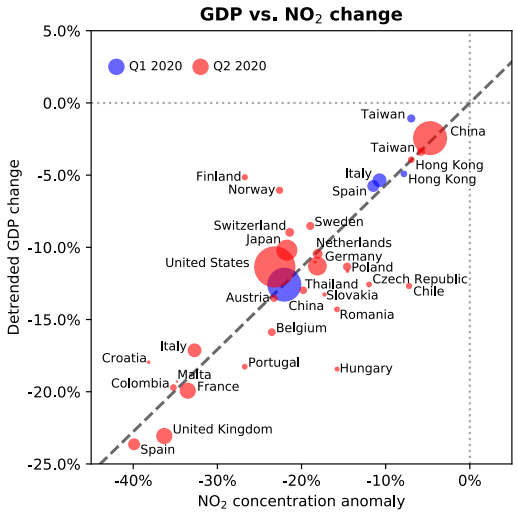
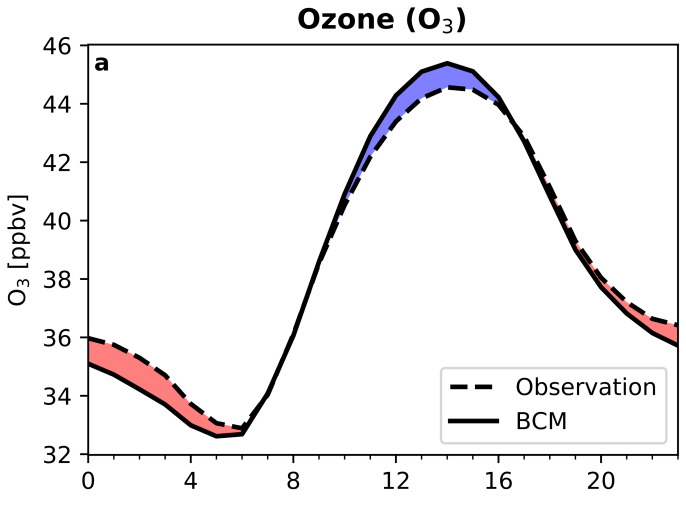
Impact of COVID-19 restrictions on atmospheric concentrations of O_3 and NO_2 across the globe

- We examined the impact of COVID-19 related mobility restrictions on surface concentrations of nitrogen dioxide (NO_2) and ozone (O_3) through comparison of model simulations against surface observations using a machine learning methodology.
- On average, NO_2 concentrations were 18% lower than business as usual from February to July 2020. Reductions in NO_2 agree well with timing and severity of lockdown measures.
- The ozone response is complicated by nonlinear atmospheric chemistry. The analysis indicates an increase in nighttime surface ozone and a reduction in afternoon ozone.







Keller et al.: Global impact of COVID-19 restrictions on the surface concentrations of nitrogen dioxide and ozone, Atmos. Chem. Phys., 21, 3555–3592, doi.org/10.5194/acp-21-3555-2021, 2021.